Moderators' Report/ Principal Moderator Feedback

Summer 2016

GCE Music Technology (6MT04)

All questions reflected a full range of responses. Paper totals commonly ranged from 20 to over 70 reflecting a well-judged assessment. Examiners thought that the paper was fair, revealing clearly the candidate's ability level.

There was a clear distinction between centres that had prepared well using past papers and thoroughly researched music technology theory, and those that seemingly had invested little time on theory and mock examinations. Candidates from the latter centres would not be able to access the higher grades due to insufficient detail in responses. However some centres/candidates were relying solely on the past papers for their exam prep and, as a result of not developing the pupils' wider DAW skills, couldn't adapt to variations in questioning, often relying on answers from previous exams that didn't answer this year's questions.

Candidates should be reminded not to give many answers that contradict themselves for the same question, or a string of guesses. Contradicting answers won't be credited in any question. For example, in 3(d) (ii) some candidates labelled the y-axis as "volume (Hz)" which would not be credited because "Hz" is wrong.

Though an improvement on last year, some students did not provide correct bounces, including not soloing the track, leaving the metronome on or effects on for tasks 1 and 2 so they could not access all of the marks.

Good quality DAW software should be used. Centres should not rely on entry-level software because many of the plug-ins and editing functions required for the paper may not be available.

Most centres were well prepared for the examination. However there continue to be similar problems to previous years:

- Some CDs did not play, suggesting that centres did not test them before posting.
- Some CDs were damaged by the pen used to write the candidate details.
- Some were damaged in the post, so please wrap them carefully.
- Some exam papers were posted much later than the exam date. The scripts should be posted on the day of the exam.
- Sometimes exams officers did not put the CDs in with the papers, or sent them separately to a different address.
- Some centres only included one CD or USB stick containing all student work. Each candidate must have a separate CD in order to be assessed.
- Please don't put sticky labels on the CDs because they damage the fragile CD drives in laptops with which this paper is marked.

Computers must not have access to the internet, any other network or previously saved files. Refer to the "Instructions for the Conduct of Examinations" on the Edexcel website. There were instances of where candidates had inadvertently submitted music from previous exam series proving to Edexcel that their exam computers were not secure.

Question 1

This question was intended to be a series of short answer accessible questions to ease the candidates into the exam. These gradually got harder throughout the question culminating in the hardest which was to aurally identify flange parameters.

A few students who were clearly good technologists, scoring high throughout the paper, did not have the musical understanding to approach (b) and (c) in the same way. Such

candidates should be encouraged to use the technology to aid them in answering pitch and rhythm questions.

(a) Part (i) was a very accessible question with most candidates understanding that lack of quantise helped improve the human/natural feel. However in part (ii), very few candidates got the quantise value correct, giving values too high.

(b) This question offered differentiation by the varying difficulty of the bars. Bars 1, 2 were more often correct than bars 3 and 4. The dotted rhythm in bar 3 posed the most problems for candidates.

(c) Mostly correct responses, nearly all named at least one chord correctly. A few candidates put the chords in the wrong bars so could not be credited.

(d) With a clear filter change in bar 10, examiners were surprised by poor responses.

(e) Most candidates correctly identified the effect. Part (ii) was designed to differentiate the high ability students. Even so, the mark scheme allowed a wide range to allow for a variety of different DAWs and plug-ins. Able students gave reasonable values that were credited. Less able students sometimes gave answers that were outside of the range possible for the effect showing that they had no comprehension of the parameters.

Question 2

(a) This question differentiated very well across the whole cohort. Candidates could not rely on presets to score full marks and required an understanding of filter envelopes. If the question was attempted, a mark was usually given for (ii) if there was some kind of synth timbre. Most synth bass presets could have scored 2 for (v) for a resonant LPF with a descending decay.

The most common errors were, the bass line in the wrong octave, typically 1 octave too high, pitch bend of only 1 octave and not 2, and the filter cut-off controlled by an envelope decreased and stayed low without rising again.

The most difficult part was the copying of the filter envelope and the uniqueness of the example given meant that the candidates had to really understand how to operate the synth. The easiest way was to invert the filter envelope although a multistage envelope could work too.

Unfortunately some candidates only produced a bass part for bars 24-29, leaving the rest of the part on piano, rather than all of the way through so no credit could be fairly given.

(b)/(c) Most candidates scored well here finding the values in the correct editor. Some centres reported that candidates found that there was no pitch bend in bar 18; these cases were the result of candidates having put the bass out of sync. In such cases, it's important that teachers do not intervene during the exam and that candidates solve problems unaided, or employ exam technique and move onto the next question if they are unable to find a solution.

(d) Most candidates gave a correct answer here. Some missed out on a mark by stating "A" without stating major or minor.

Question 3

(a) The easiest way to listen to the reverb tail was at the end of the song. Most candidates did not answer the reverb time question correctly and later in question 5(f) often go on to cut the reverb or quiet delay tail.

(b) Many answers for part (i) were too vague for credit, e.g. "louder signal". More explanation is required as to why a louder signal is better. The biggest cause of lost marks was not noticing that the question asked "how could these problems be reduced during the mix" with a large number of candidates citing recording techniques instead of mixing techniques such as reducing plosives by "using a pop-shield". In other cases students wrote about plosives and sibilance as if they were one thing and did not show a thorough understanding of the different processes that would be used to reduce both of them. Weaker candidates tended to give very general answers, for example "proximity effect" / "EQ" with no elaboration of EQ settings so didn't receive credit for the solution.

(c) This question saw a high number of correct responses; this demonstrates, either candidates can hear a sine wave or are able to use the visual aids of the wave editor's tools.

(d) Examiners credited error carried forward from part (c). On the whole, this question showed a lack of understanding of wave theory; this is something that universities complain about. When the waveform was identified correctly, it was also drawn well. However, poor identification of axis showed that understanding the domains that the graph is illustrating was lacking. On this occasion examiners had to give marks for partially correct answers otherwise very few candidates would have scored marks at all thus not giving any differentiation, e.g. "dB" for the y-axis was given, though not correct, because it shows some understand that loudness can be seen from the y-axis. Candidates should be reminded that they should draw accurately because inaccurately drawn graphs and labelling could not be credited, e.g. the wavelength not quite going from peak to peak.

(e) Most of the candidates who correctly drew the wave also correctly drew the opposite phase.

(f) This question offered an excellent opportunity for top students to demonstrate their ability and problem solving skills. Complete silence of the sine wave was not required for full marks to allow for the error of 0.1dB in DAW faders. Examiners saw the full range of marks for this question so it differentiated well, more credit given for more accurate editing. Many candidates did not achieve an audible change to the file so weren't credited. Some centres reported that candidates could not access the question because the file was read-only and candidates tried to invert the phase using destructive editing. However, the read permissions of the file are not relevant if a plug-in is used to change the phase, a non-destructive technique. In such cases, it's important that teachers don't intervene during the exam and candidates are left to solve problems unaided, or employ exam technique and move onto the next question if they are unable to find a solution.

Question 4

There are two options for question 4, designed to give all candidates with diverse music technology interests a chance to illustrate their expertise for the subject. This question differentiated well across the cohort. For both options, there was a full range of responses ranging from 0 marks where no relevant information had been written, to some excellent responses scoring more than maximum marks. The exhaustive mark scheme gave credit for all relevant knowledge, further credit for deeper understanding and explanation.

Lengthy, meandering answers with little or repetitive content failed to secure high marks. Many candidates lost marks simply because they were unclear in their responses - this could be due to a lack of knowledge or terminology, or an inability to communicate in a clear and concise manner. Candidates must spell technical terms correctly to gain credit in this question.

A student that had just memorised information without understanding it is not going to score very highly in this question because it is designed to test higher levels of understanding. To obtain top marks in question 4, an informative use of technical vocabulary applied to an unfamiliar situation is expected. Some candidates use this question to write about a topic that they have memorised from revision but don't receive credit if it doesn't answer the question.

Well labelled graphs and diagrams could add significantly to the marks available for both options. Candidates should not feel restricted to prose when a labelled diagram would illustrate the points better.

The guitar pedal option proved more popular than mastering. Whichever option was taken, mark totals were holistically on par with candidates who chose the other topic.

(a) Many candidates were able to identify some core components of the techniques employed, reasons for them and historical developments, with some strong responses discussing the needs of modern mastering referring to high levels of compression, limiting and discussion of digital formats. Essays that scored lower marks tended to stray off topic and erroneously discussed mixing, rather than mastering - discussing the need to balance tracks, add effects etc. A few responses alarmingly stated that mastering did not exist before the 1980's as it was impossible without computers. Some candidates chose not to answer the question but rely on what they remembered from revision and undertook long discussions on the history of 1950s recording studio techniques to the present day, or went into huge detail about the controls found on a compressor so scored only a few marks for key terms.

Strong responses went beyond discussing the "loudness wars" and described other mastering processes such as EQ, stereo width and digital formatting.

(b) The photograph for this question provides an opportunity for candidates to apply their knowledge to unfamiliar pieces of studio equipment by relating it to a familiar plug-ins. All three (four including chorus) effects can be found in all DAWs so the question is accessible to all candidates.

The layout of the picture resulted in mostly well-organised and clear answers. Some concise answers were less than a page long and scored 16. Merely identifying the features would limit credit, whilst explaining the controls, signal paths and giving practical examples of how they would be used gained further credit.

Some candidates were over reliant on stating the name of the relevant control without expanding on its function, e.g. "the distortion changes the distortion", "the filter controls the filter". Re-wording the question like this attracts no credit.

There was some confusion over the function of some of the controls, e.g. "the feedback creates a high whistling feedback effect". Some candidates gave little technical detail merely writing extended lists of artists and bands associated with the effects.

Strong responses were able to name all the controls, discuss the importance of pedal order, the use of transistors in the pedals and in particular, understand how the analogue delay pedal worked. Many who scored highly in the essay, picked up the bulk of the marks for the delay pedal, correctly differentiating between the feedback and delay time, and understand how chorus works. Regarding the wah pedal, responses received high credit for discussions correctly describing the filter type and how it worked. Good responses for distortion correctly explained the filter type and its purpose and often included graphs to show how the wave-shape changes.

Question 5

This question had a range of editing, processing and effects-based tasks to cater for a wide range of student ability.

Candidates should answer the questions and not add other creative panning, dynamic processing, EQ and effects not specified in the question. Otherwise full credit may not be given because the processing that the question asks for may not be clearly audible.

(a) Most candidates were comfortable with this automation task. However many of the candidates didn't accurately draw the automation so only achieved two marks because of a moving reverb tail.

(b) This question was well answered; most students achieved 3 marks in this question. The most common mistake was a wrong filter type or EQ sweep though some credit was still given if there was some kind of tone change during the intro.

(c) This question was designed to differentiate top ability candidates. Therefore, as expected, not all candidates attempted the question. The recording was designed so that the parameters needed adjusting to have any audible result at all; a preset wouldn't work. Most candidates that attempted the question scored well with a low threshold and high ratio giving deep pumping. Some candidates used a gate instead giving the wrong rhythm but some credit could still be given.

(d) This question was correctly answered by most candidates using the correct mono delay with crotchet timing. However quaver and minim delay was presented sometimes. Again, like question (c), a preset wouldn't answer the question; examples include a stereo delay, which would be given little credit. Some candidates didn't carefully adjust the feedback for a musical fade that filled the gaps between the chords.

(e) The tracks are deliberately mastered at wildly varying volumes to ensure that the candidate needed to listen (rather than look at fader positions) to earn credit. Some candidates achieved full marks for balance. The most common mistake was to have the drums too quiet and the synth chords too loud. In some mixes, the drums were barely audible. In most popular music styles, the drums and vocals should be the most forward in the mix.

(f) Presentation of mix is assessed in this question. Chopped endings continue to be a problem in coursework as well as this exam. This should be an easy 3 marks, but many candidates, even those scoring well in to the 70s, chopped off reverb and delay tails. This is just careless editing especially when candidates had achieved full marks elsewhere. The most common reason that candidates achieved 1 mark was the bass track being out of sync by a bar.